

**REMARKS**

In response to the Office Action dated November 6, 2001, claims 1-3, 6, 11-14, 34 and 39 are amended, claims 32, 33 and 35 are canceled. Claims 1-31, 34 and 36-39 are now active in this application. No new matter has been added.

The indication that claims 21-31 and 36-38 are allowable, and that claims 10-12 and 15-18 would be allowable if amended to be in independent form including all the limitations of the base claim and any intervening claims is acknowledged and appreciated.

**REJECTION OF CLAIMS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH**

Claims 2 and 3-9 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In support of this position, the Examiner asserts that “the 2-dimensional data” in line 3 of claim 2, line 2 of claims 3 and 6 and line 3 of claim 9 lacks clear antecedent basis. By this response, each of the noted points of indefiniteness has been appropriately addressed to eliminate the non-sequiturs. More specifically, the language “based on 2-dimensional image data of the object”, inadvertently canceled from claim 1 in the previous response, is reinserted to claim 1 (see the same language in method claim 14). Therefore, it is respectfully urged that the rejection be withdrawn.

**REJECTION OF CLAIMS UNDER 35 U.S.C. § 103**

Claims 1, 2, 13, 14, 19, 20, 34, 35 and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanaka.

As claims 3-9 are not included in this art rejection, it is presumed that they would be allowable if amended to be in independent form and appropriately addressed the noted indefiniteness.

Tanaka discloses mapping a 2-dimensional input image onto a 3-dimensional curved surface. This is different from the present invention, which processes input 3-dimensional form data of an object. Furthermore, while the Examiner contends Tanaka discloses modifying a form of a part of the 3-dimensional form data (claim 1), he admits the reference does not disclose “with maintaining a form of other parts”. However, the Examiner maintains that “it is well understood from column 2, lines 7-9, that only the front side of the curved surface is modified and all the other parts of the curved surface are the same”. Thus, the Examiner asserts that it would have been obvious to one of ordinary skill in the art “to simply modify the Tanaka’s image transforming apparatus by simply having the front side of the 3-dimensional curved surface’s front side modified by keeping all the other sides as is. This provides an apparatus that will keep the edge portions of the output image as its best quality.”

However, column 2, lines 5-9 describe “...an object of this invention is to provide an image transforming apparatus in which it is possible to retain the quality of edge portions of the output image formed by mapping the input image onto a three-dimensional curved surface”. Nothing in this description justifies the Examiner’s assertion “it is well understood from column 2, lines 7-9, that only the front side of the curved surface is modified and all the other parts of the curved surface are the same”. What is being worked on in Tanaka is a 2-dimensional image and this 2-dimensional image is mapped to a 3-dimensional surface.

With respect to claim 1, an image transforming apparatus taught by Tanaka outputs image data by mapping a 2-dimensional image onto a 3-dimensional curved surface such as a

cylindrical surface. The surface shape is *predetermined and unchangeably* cylindrical. Therefore, the image transforming apparatus does **not** modify a form of 3-dimensional form data. Besides, the surface shape, i.e., cylindrical shape, has no relation to a 2-dimensional image to be mapped.

In contrast, in the present invention, 2-dimensional image data and 3-dimensional form data are both obtained based on the same object and a modifying unit modifies a form of the 3-dimensional form data based on the 2-dimensional image data. Nothing in Tanaka discloses or suggests that both 2-dimensional image data and 3-dimensional form data showing the same object are used to modify the 3-dimensional form by the 2-dimensional image data. Similar argument applies to independent claims 14 and 34.

Furthermore, while the Examiner says claim 39 is similar to claims 1 and 2, this is incorrect as claim 39 recites, *inter alia*:

a processing portion for modifying the 3-dimensional form data in such a manner to provide the extracted part with an undulation like hair.

Nowhere in Tanaka is there disclosed or suggested to modify 3-dimensional form data in such a manner to **provide the extracted part with an undulation like hair**. In fact, no portion of this reference discloses or suggests providing an extracted part of 3-dimensional form data with a undulation like hair.

At any rate, to expedite prosecution, claim 1 is amended to delineate:

A data processing apparatus for processing inputted 3-dimensional form data of an object, said data processing apparatus comprising:

a modifying unit which modifies a form of a part of the inputted 3-dimensional form data with maintaining a form of other parts thereof based on 2-dimensional image data of the object...

In addition, claim 2 is amended to recite, *inter alia*:

a first generating unit which generates 2-dimensional image data of the object;  
a second generating unit which generates the 3-dimensional form data of the object independent of the 2-dimensional image data generated by the first generating unit

Claim 14 is amended to recite, *inter alia*,

(a) inputting 2-dimensional image data of the object and the 3-dimensional form data of the object, the 3-dimensional form data and the 2-dimensional image data being independent of each other...

Finally, claim 34 is amended to recite, *inter alia*,

(a) generating 3-dimensional form data of the object;  
(b) generating 2-dimensional image data of the object, the 3-dimensional form data and 2-dimensional form data being generated independent of each other;

A person of ordinary skill in the art would clearly understand that Tanaka does not input 3-dimensional form data of an object to any data processing apparatus, and that any 3-dimensional image data in this reference is developed from 2-dimensional image. Thus, amended claims 1, 2 and 14 are patentable over Tanaka, as are dependent claims 2-9.

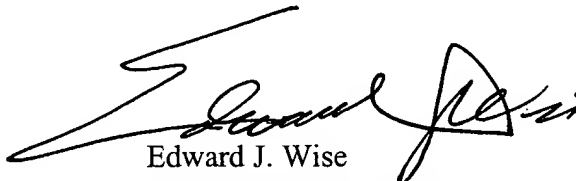
**CONCLUSION**

Accordingly, it is urged that the application, as now amended, is in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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**VERSION WITH MARKINGS SHOWING CHANGES MADE**

**In The Claims:**

Please amend claims 1-3, 6, 11-14, 34 and 39 as follows:

1. (Twice Amended) A data processing apparatus for processing inputted 3-dimensional form data of an object, said data processing apparatus comprising:

a modifying unit which modifies a form of a part of the inputted 3-dimensional form data with maintaining a form of other parts thereof based on 2-dimensional image data of the object.

2. (Amended) The data processing apparatus of claim 1, further comprising:

a first generating unit which generates the 2-dimensional image data of the object; [and]

a second generating unit which generates the 3-dimensional form data of the object independent of the 2-dimensional image data generated by the first generating unit; and

means for inputting the 2-dimensional image data and the 3-dimensional form data of the object to the data processing apparatus.

3. (Amended) The data processing apparatus of claim 1, wherein said modifying unit extracts an area from the 2-dimensional image data based on a predetermined condition, and modifies the form of the part of the 3-dimensional form data corresponding to the area.

6. (Twice Amended) The data processing apparatus of claim 1 wherein  
said modifying unit extracts a first area from the 2-dimensional image data based on a first predetermined condition and a second area from the 3-dimensional form data based on a second predetermined condition, and

said modifying unit modifies the form of the [a] part of the 3-dimensional form data corresponding to the first area and the form of the [a] part of the 3-dimensional form data corresponding to the second area.

11. (Amended) The data processing apparatus of claim 10, wherein said modifying unit modifies the form of the part of the 3-dimensional form data to emphasize a portion [partial form] of the object corresponding to the part.

12. (Amended) The data processing apparatus of claim 10, wherein said modifying unit modifies the form of the part of the 3-dimensional form data to smooth a portion [partial form] of the object corresponding to the part.

13. (Amended) The data processing apparatus of claim 1, wherein said modifying unit modifies the form of the part of the 3-dimensional form data in the case where the data processing apparatus is set in a specific mode.

14. (Twice Amended) A method for processing 3-dimensional form data of an object, said method comprising the steps of:

(a) inputting 2-dimensional image data of the object and the 3-dimensional form data of the object, the 3-dimensional form data and the 2-dimensional image data being independent of each other; and

(b) modifying a form of a part of the 3-dimensional form data with maintaining a form of other parts thereof based on 2-dimensional image data of the object.

34. (Amended) A method for processing 3-dimensional form data of an object, said method comprising:

(a) generating 3-dimensional form data of the object; [based on]

(b) generating 2-dimensional image data of the object, the 3-dimensional form data and 2-dimensional form data being generated independent of each other;

and

(c) [(b)] combining the 3-dimensional form data and the 2-dimensional image data to modify a form of a part of the 3-dimensional form data.

39. (Amended) A 3-dimensional form data processing apparatus comprising:

a generating portion for generating 3-dimensional form data of an object;

an extracting portion for extracting a part satisfying predetermined condition in the 3-dimensional form data; and

a processing portion for modifying the 3-dimensional form data in such a manner to provide the extracted part with an undulation like hair.